

SECRET

Attachment E

*Lyne*

REF: DAS-5475 Concerned with EG-1762 (REG-359)

1. (Question 2)

The crystal oscillator frequency change (range tracking unit) would be very much smaller than one cps for a Mach one (1) target. The frequency change for such a target would be only .005 cycle per second. A frequency change of about one (1) cycle would denote a Mach 200 target. These calculations are made on the basis of a time scale of four hundred (400) microseconds per cycle and a range scale of sixty-seven (67) kilometers per cycle. The maximum frequency change of the oscillator is one quarter of a cycle, being limited by the Q of the crystal. This maximum deviation corresponds to a target speed of approximately Mach fifty (50). The crystal Q is somewhere between 8,000 to 10,000.

2. (Question 3)

The PAGC signal is a function of the received signal level. This level is applied to the PAGC circuits as a DC voltage with a maximum amplitude of ten (10) volts. It is derived from the integrator circuits of the angle block. (see Page 16, EG-1762). The PAGC pulse is selected by a range pulse for each target in a special PAGC selector. The PAGC pulses for two targets at the same angle but different ranges would act independently. Each would respond to the signal level of its respective video signal.

3. (Question 4)

The PRF range reference R sub 0 is supplied to the computer for the reasons stated in paragraph 4 of DAS-5475.

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